APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/025,143	02/18/1998	MARK W. BURKE	9318-0004	9234

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EXAMINER
LAO, SUE X

ART UNIT	PAPER NUMBER
2126	37

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application N███	Applicant(s)
	09/025,143	BURKE, MARK W.
Office Action Summary	Examiner	Art Unit
(Supplemental)	S. Lao	2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*11 December 2003*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*23-35*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>*23*</u> is/are allowed.

6)☒ Claim(s) <u>*24-35*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 23-35 are pending. This action is in response to the preliminary amendment filed 12/11/2003 accompanying an RCE. Applicant has cancelled claims 16, 19, 21 and 22 and added claims 23-35.

2.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3.   Claims 25-33 are rejected under 35 U.S.C. §101 because the invention constitutes functional descriptive material which is non-statutory.

The claimed invention is directed to non-statutory subject matter. The invention as recited in claims 25-33 is directed to a method of organizing a software program involving the use of programming interfaces. This does not disclose a specific computer program and cannot be treated by a computer. What is claimed is more abstract and less tangible than a "per se" computer program, which by itself is non-statutory.

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to adequately teach the claimed limitations "each such interface being ... non-application specific" and "invoking said one or more objects defined in said first notation without generating a new interface defined in said first notation" as recited in claims 26, 30, 34 and 35.

In the application as filed, there does not appear to be any detailed descriptions or disclosure of an interface being *non-application specific*, nor invoking one or more

objects defined in the first notation *without generating a new interface defined in the first notation.* Applicant fails to disclose "each such interface being ... non-application specific" and "invoking said one or more objects defined in said first notation without generating a new interface defined in said first notation" in the specification as filed.

Claims 26-35 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant recites the limitations "each such interface being ... non-application specific" and "invoking said one or more objects defined in said first notation without generating a new interface defined in said first notation" in claims 26, 30, 34 and 35. There does not appear to be a written description of these claimed limitations in the application as filed, for the reasons set forth in the objection to the specification.

5.   Claims 26, 30, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purtilo et al ("Module Reuse by Interface Adaption") in view of Gamma et al (Design Patterns: Elements of Reusable Object-oriented Software, pp. 87-96, 139-150).

As to claim 26, Purtilo teaches a method (coerce interface structure/patterns) facilitating a calling object (module on left hand side, fig. 1) to invoke a target object (module on right hand side, fig. 1), said method comprising the steps of:

generating (create map) one or more objects (components of a Nimble map) corresponding to an interface (formal pattern) associated with said target object, each of said object having an interface defined in a first notation (actual pattern) and each such interface being pre-defined (actual pattern), said target object's interface defined in a second notation (formal pattern); and

facilitating said calling object to call said target object (rearrange parameters of an interface pattern at the point of procedure/function call) by invoking said one or more objects defined in said first notation (procedure call in actual pattern).

Regarding the interface being non-application specific, note discussion of section 4 above. Further, Purtilo does not limit the Nimble approach to a specific application. Regarding without generating a new interface defined in the first notation, Purtilo generates Nimble maps/adaptors which are implemented in any notation / application language. Page 550, 1st para..

Purtilo does not teach that the objects/adaptors/coercion modules are implemented with object-orientation, nor the step of generating being implemented by instantiating.

This, however, would have been an obvious choice, and additionally taught by Gamma (adaptor pattern) who implements every software modules of an adapting system (client, target, adaptee, adaptor) in an object-oriented fashion. Therefore, it would have been obvious to implement adaptors and other software modules of Purtilo with object-oriented objects. In the combined teaching, the step of generating would have been implemented by instantiating in object orientation.

The motivations to combine the teachings of Purtilo and Gamma include the following. Purtilo desires reusing the adaptors / coercion modules (page 551, lines 31-39) but does not provide a mechanism to do so. Gamma teaches a mechanism to reuse adaptor (implement an adaptor with object-oriented adaptor pattern). [It is noted that one of the most well known benefits of object orientation is module reuse.] Therefore, one of ordinary skill in the art would have been motivated to use the mechanism as taught by Gamma to provide reuse of adaptor modules in Purtilo.

As to claim 30, it is covered by claim 26 except for obtaining object definition information which is met by Purtilo as modified in that an actual or a formal pattern defines a procedure/operation which, in light of object-oriented implementation as taught by Gamma, would represent definition of an object's interface.

As to claims 34 and 35, these are program product claims of claims 26 and 30, respectively. Thus note claims 26 and 30 for discussions.

6.   Claims 24, 27-29 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purtilo et al in view of Gamma et al as applied to claims 26 and 30 and further in view of author admitted prior art APA (page 1, line 13 - page 4, line 17).

As to claims 27-29 and 31-33, APA teaches CORBA IDL (CORBA IDL, page 3, lines 2-5), GDMO (GDMO, page 3, lines 21-29), ASN.1 (ASN.1). Because CORBA IDL and GDMO/ASN.1 are well known object interface specifications / notations (APA, page 3, lines 30-35), it would have been obvious to include these specifications into the system of Purtilo as modified.

As to claim 24, note discussion of claims 26-28 and note the equivalence of software objects / objects. Purtilo further teaches without translating in that during interface adaption/coercion, some components of the source interface are initialized or masked out, ie, not translated. See pages 539, 547.

7.   Claim 23 is allowed.

8.   Applicant's arguments filed 12/11/2003 have been considered but are moot in view of the new ground(s) of rejection.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (703) 305-9657. A voice mail service is also available at this number. The examiner's supervisor, SPE Meng-Ai An, can be reached on (703) 305 9678. The examiner can normally be reached on Monday - Friday, from 9AM to 5PM. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Sue Lao
April 1, 2004